

REMARKS

Applicant submits these remarks in response to the Office Action dated April 22, 2005 ("Office Action").

New corrected drawings are provided to be in compliance with 37 CFR 1.121(d).

Claims 1-20 are pending in the application.

Claims 1-20 have been rejected under 35 U.S.C. § 103(a).

The Examiner rejects claims 1-8, 10-18, and 20 as being unpatentable over U.S. Patent No. 5,332,031 (Kiga) in view of U.S. Patent No. 5,724,818 (Iwata et al). Claims 9 and 19 are rejected as being unpatentable over U.S. Patent No. 5,332,031 (Kiga) in view of U.S. Patent No. 5,724,818 (Iwata et al) and U.S. Patent No. 4,253,515 (Swiatosz).

Applicant respectfully asserts that the claims are patentable over the cited references.

Even if successfully combined, Applicant respectfully asserts that the Examiner fails to meet the *prima facie* standard of obviousness because the combination of each prior art citation lacks elements of Applicant's claimed invention. These references, alone or in combination, do not teach or suggest every element recited in the claims. One aspect of the present invention includes "mounting said transfer plate to a thermal barrier" (claim 1) or "said transfer plate mounted to a thermal barrier operative to prevent heat transfer between said thermoelectric cooling device and said housing" (claim 11). This feature, taught on page 7, lines 22-26 of the specification, recites "Additionally , spacer 117 may be dimensioned to facilitate or to allow positioning of hot side 131 of TEC 130 in a suitable location for mounting (through transfer plate 180) onto a thermally insulated structure, or "thermal barrier," such that heat generated by operation of TEC 130 is not re-circulated back to cavity 11, in general, nor to CCD 199, in particular."

In contrast, none of the cited references have a thermal barrier that operates in such a manner. Kiga teaches pulling heat away from thermoelectric semiconductor elements, but no thermal barriers in a sealed cavity as described by the specification, and claimed by the Applicant. The lines cited by the Examiner (col 3, lines 40-42 of Kiga) *teach away from the invention*, through the use of "a highly heat-conductive grease, such as a silicon grease."

Similarly, Iwata teaches the use of a heat sink coupled to a thermoelectric cooler, but does not have a thermal barrier. Items 10 and 14 of Iwata FIG. 1 are both insulating substrates, which are not mounted together, as documented at col. 7, lines 7-9, "Between the insulated substrates 10 and 14 are disposed P-type thermoelectric semiconductor elements 12 and N-type thermoelectric semiconductor elements 13." Moreover, there is no thermal barrier between 11 and 18.

Since the references cited by the examiner do not contemplate the existence of a thermal barrier, the Applicant asserts that the rejection based under 35 U.S.C. § 103(a) is improper.

With respect to Col. 5, lines 40-50 of Kiga, the Examiner is mistaken. The cited passage discusses the heat radiating coil unit formed by coiling a flexible, "small tube of highly heat conductive material and sealing the working fluid in the flexible small tube," but does not contemplate "providing an environmentally tight moisture barrier with said conformal coating" as claimed by Applicant in claims 6 and 16.

Swiatosz further teaches away from the invention, as not only does it lack a thermal barrier such that heat generated by operation of TEC 130 is not re-circulated back to cavity 11, but it purposefully recirculates heat back to the device.

For all the reasons listed above and more, Applicant respectfully requests that the Examiner withdraw the rejections of claims 1-20.

Applicant believes that no extension or any other fees are due. In the event that Applicant is incorrect in the calculation, please charge any fee due in connection with this submission to Deposit Account No. 50-2212, Order Number 044182.0307083.

Applicant believes that all claims are in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (858) 509-4008.

Respectfully submitted,
PILLSBURY WINTHROP LLP

Dated: June 21, 2005

By: 

James Y.C. Sze
Registration No. 49,349
PILLSBURY WINTHROP, LLP
11682 El Camino Real, Suite 200
San Diego, California 92130-2092
(858) 509-4008

CERTIFICATION UNDER 37 C.F.R. §§ 1.8 and/or 1.10*

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I hereby certify that, on the date shown below, this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: June 21, 2005


Signature

Sachiko Y. Snedden

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* Only the date of filing (§ 1.6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under § 1.8 continues to be taken into account in determining timeliness. See § 1.703(f). Consider "Express Mail Post Office to Addressee" (§ 1.10) or facsimile transmission (§ 1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations.